laser pointer. The user receives feedback from interactions with the computing device **650** in the VR space on the computing device **650** or on the VR headset **690**.

In some implementations, one or more input devices in addition to the computing device (e.g., a mouse, a keyboard) can be rendered in a computer-generated, 3D environment. The rendered input devices (e.g., the rendered mouse, the rendered keyboard) can be used as rendered in the VR space to control objects in the VR space.

Computing device **600** is intended to represent various forms of digital computers, such as laptops, desktops, workstations, personal digital assistants, servers, blade servers, mainframes, and other appropriate computers. Computing device **650** is intended to represent various forms of mobile devices, such as personal digital assistants, cellular telephones, smart phones, and other similar computing devices. The components shown here, their connections and relationships, and their functions, are meant to be exemplary only, and are not meant to limit implementations of the inventions described and/or claimed in this document.

A number of embodiments have been described. Nevertheless, it will be understood that various modifications may be made without departing from the spirit and scope of the specification.

In addition, the logic flows depicted in the figures do not require the particular order shown, or sequential order, to achieve desirable results. In addition, other steps may be provided, or steps may be eliminated, from the described flows, and other components may be added to, or removed from, the described systems. Accordingly, other embodiments are within the scope of the following claims.

What is claimed is:

1. A computer-implemented method comprising:

generating a virtual environment for display in a head-mounted display device, the virtual environment including at least one three-dimensional virtual object having a plurality of volumetric zones configured to receive virtual contact;

detecting, with a processor, a plurality of inputs corresponding to a plurality of actions performed in the virtual environment on the at least one three-dimensional virtual object, each action corresponding to a plurality of positions and orientations associated with a portion of at least one tracked input device;

generating, with the processor, and for each action and while detecting the plurality of inputs, a plurality of prediction models, at least one of the plurality of prediction models including a trajectory and a probability of virtual collision of the portion of the at least one tracked input device with at least one of the plurality of volumetric zones;

determining, based on the plurality of prediction models, in which of the plurality of volumetric zones the portion of the at least one tracked input device is predicted to virtually collide; and

for each action,

matching, with the processor, at least one prediction model from the plurality of prediction models to a tracked trajectory corresponding to a virtual collision between the portion of the at least one tracked input device and at least one of the plurality of volumetric zones, the tracked trajectory including at least a backswing and a downward arc,

performing the respective action associated with the matched at least one prediction model, and

providing, based on the respective action and the matching of the at least one prediction model, output in a display of the head-mounted display device, the output including a textual character corresponding to the virtual collision in the at least one of the plurality of volumetric zones.

2. The method of claim **1**, wherein determining which of the plurality of volumetric zones a portion of the at least one tracked input device contacts is based at least in part on the plurality of positions and orientations associated with the at least one tracked input device and a derived velocity for the at least one tracked input device.

3. The method of claim **1**, wherein the plurality of prediction models process six dimensions of spatial data for a determined course of travel corresponding to the tracked input device and one or more of the plurality of volumetric zones.

4. The method of claim **1**, wherein generating the plurality of prediction models includes processing the plurality of inputs that include, for each action, a heading, an angle, a course, and a derived velocity.

5. The method of claim **4**, wherein the course comprises a trajectory and a collision zone corresponding to at least one of the plurality of volumetric zones.

6. The method of claim **1**, further comprising in response to determining a match does not exist between the at least one prediction model and the trajectory, suppressing performance of the action associated with the at least one prediction model.

7. The method of claim **1**, further comprising suppressing performance of the action associated with the at least one prediction model based on determining that a velocity associated with the action is below a threshold velocity, the threshold velocity being configured to detect force sensibility associated with the action.

8. The method of claim **1**, wherein the plurality of prediction models filter one or more of the plurality of actions to determine which of the plurality of actions corresponds to entering text on a virtual keyboard associated with the at least one three-dimensional virtual object.

9. The method of claim **1**, further comprising for each action:

selecting, based on a context associated with a user accessing the virtual environment, an intended application from a plurality of applications in which to perform the action, the context including a detected head position of the user accessing the virtual environment; and

providing, according to the action and the context, output in the selected application for display on the head-mounted display device.

10. The method of claim **1**, wherein the virtual environment includes at least one configurable text entry device and the input corresponds to entries performed on the configurable text entry device, the configurable text entry device including an electronic virtual keyboard ergonomically adaptable to a user accessing the virtual environment.

11. The method of claim **1**, wherein the plurality of actions are tracked in six degrees of freedom to determine a position and orientation associated with each action performed within the virtual environment, each action corresponding to selecting keys on a virtual keyboard.

12. The method of claim **1**, wherein the at least one tracked input device is a set of two virtual reality controllers depicted in the virtual environment as a set of two drumsticks.

13. The method of claim **1**, wherein the at least one tracked input device is a virtual object held by a hand of a user accessing the virtual environment.